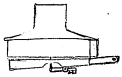
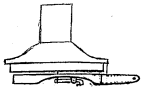
Unbound Notes and Drawings (1904)

This folder contains dated notes and drawings from 1904, as well as undated material possibly from the same year. Included are numerous undated items by Edison, John F. Ott, and others regarding the layout and machinery of the Edison Storage Battery Co. plant. These documents probably relate to the concrete factory building erected next to the West Orange laboratory in 1904. Also included are two drawings pertaining to phonographs.

All of the documents have been selected.



B.H.
Oct. 11/04.



B.H.
Oct. 12/04.

500 Cells Daily

(1)

Plating filling washing = screening, cleaning in Hydrogenin 500 cells daily.

2 = Rolling strip nickwide, from 3" strip 15/1000 to 3/1000 - Rolls furnace, Hydrogen plant for annealing -

3 = Plating the strip,

4 Annealing strip, Can stock = all other parts, furnace + Hydrogen generator

5 General plating dept to plate all the parts except strip -

(2)

6 = Tube forming = Hydrogen annealing + welding -

7 = filling tubes, assembling in grids, pressing in grids -

8 = Can machinery = tops, bottoms, Soldering tops, etc -

9 = Strip perforating

10 Cup making -

11 Iron filling cups assembling = in grids -

(3)

12 = Punching grids & other things
Hydraulic presses ✓

13 = [illegible] Can washing ✓

14 = Assembling Coils & washing — ✓

15 = Test room ✓

16 Store room ✓

17 Shipping dept ✓

18 Tool room — ✓

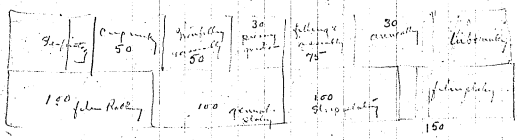
19 = Napha Cup washing ✓

(4)

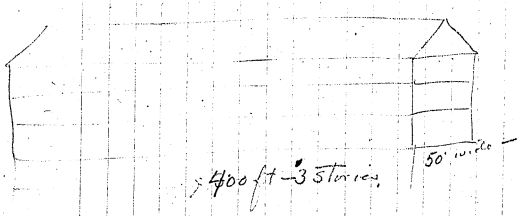
20 Dynamo Room

21 Coffee-Drying [illegible]

(6)



(6)

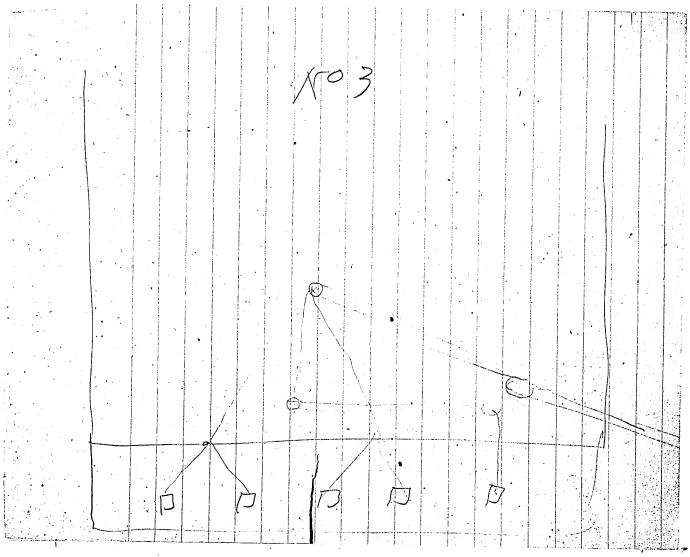


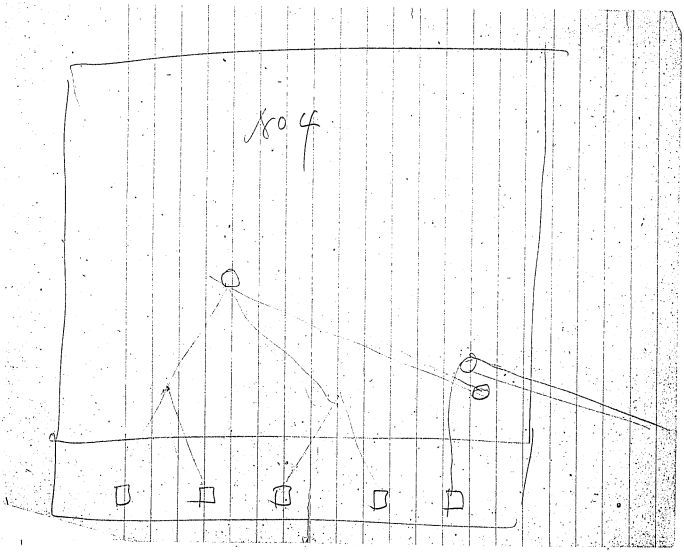
400 ft – 3 Stories

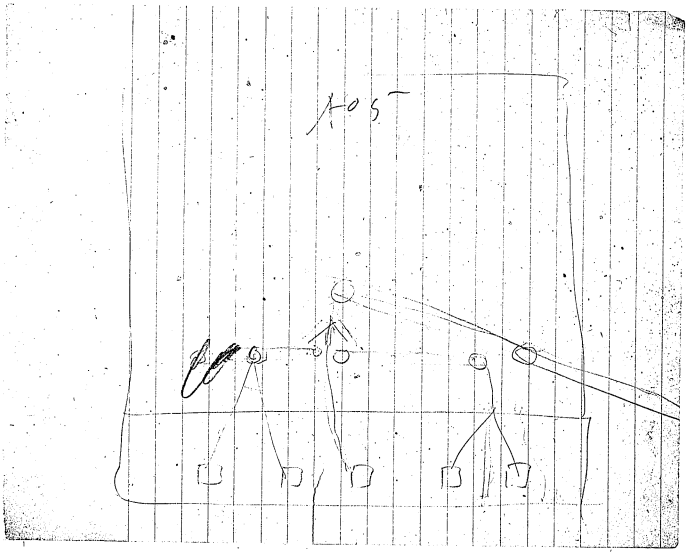
101

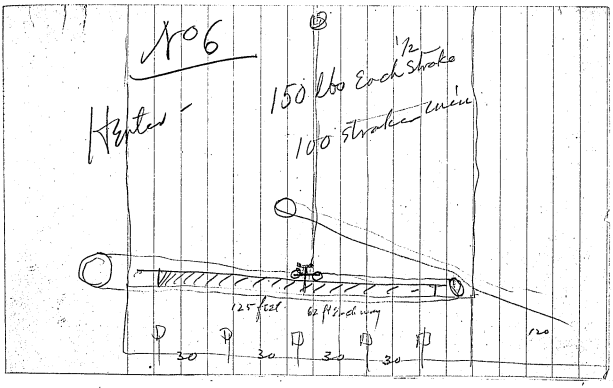
102

No 3

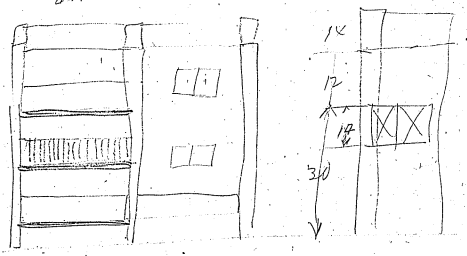



804


HOST


No 6
Heated -
150 lbs Each Stroke
100 Strokes min
125 feet
62 ft Stroke
30
30
30
30
120

c) 240.
61.

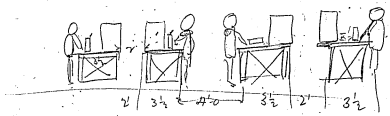


40- troughs, 6ft long — or 80 3ft or 160-2ft,
filled with assembled Ni grids — into
which is 1% Potassium Palladi Chloride
3 times, - Solution, 130 feet -
pipes — troughs thin sheet metal
resting on pipes — depth of trough
sufficient to cover grid 3" —
= 240 feet, Leaning

Strip - for Tubes.

Stock.
Rolling } includes annealing - #1.
Slitting
Perforating
Plating
Annealing
Tube making, ~~Washing and drying~~
Tube filling & inspecting. (oil cleaning)
assembling in grids and Hydraulic Press
making grids
grid plating
assembling in can body
Stock. Can Bodies
body forming - bending - lap and bottom press
can welding - side and bottom
Mounting of tops of cans.

Rolling —
Slitting —
Perforating
Plating
Annealing —
Inspecting —
Filling X Inspecting —
assembling in grids — and Hydraulic Pr.
assembling grids in can body.
Stand tops with dies — Welding
Second Machine — Welding cans



2 – Shears for cutting Stock. 6m 3 x 6. 6m 2 x 4

Press for seams. 3 x 5.

3 " " Corrugating Hydraulic. 3 x 5

3 Body Forming Machine – 3 x 3.

Can body

Stock.
Cut to length. and hole punched.
Plated.
Primed -
corrugated. s
Bend for seam pressed.
Body forming -
Body welding - sides and bottom.

Bottom, and Dep. pressed -
Top Mounting - includ. pressed and soldering -
Plating -

E18

500 Cells

3 5
17 5
3 5
52 5

Mi.

Drawing Tubes - (6×33) 5 Reg.
Cutting off Tubes
~~Lifting~~ Annealing Tubes 20 Hours
Filling Tubes (26×26) 40
Closing up Ends - 5 #1½ B. Fort Pm
Corrugated Tubes
Cutting in Ends - Hyd. (4)

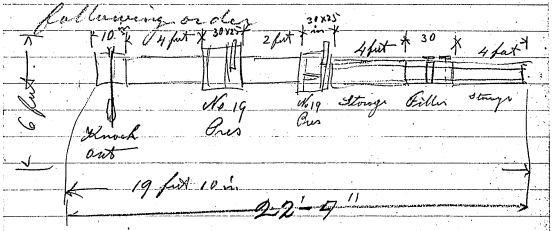
Ni Grids -
Dies for Grids - 10 - #B

20
60
12 07 p

3

01

Iron Pocket filling Tool No 19
Bliss Presses to be set up in the
following order



5 Set of these Machines required to
Make 72000 Pocket equal to 500 cells
of 12 plates

Nickle Pocket filling

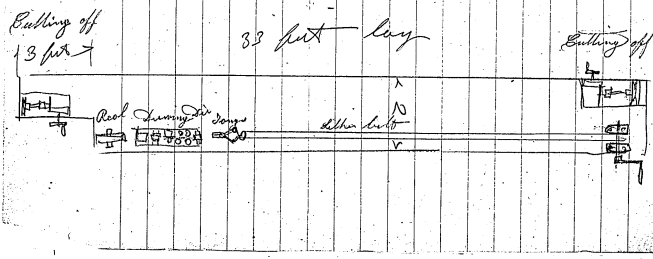
It will take 40 tubular filling Machines
To make 96000 tubular pockets
This amount is required to make 500 cells
a day, Machine filling 2600
Each machine requires 26X26 in bench
room, benches 36 in hight
Speed of counter shaft 120 Rev

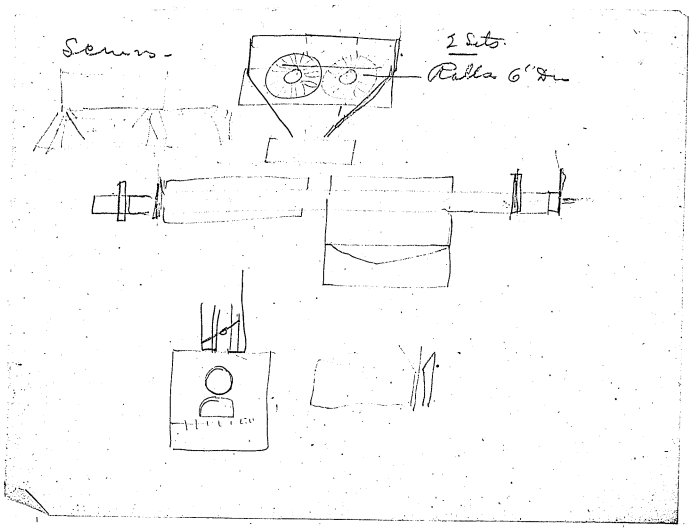
Draw Benches Five of these each
30 feet long

Machine for cutting tubes not
in 4 13/32 long it will take 10 Machines,
each requiring bench room long enough
To take in tubes 26 feet long, they
can be put on same bench as draw
bench, 3 feet high, thus

Closing end 5 foot Presses 1 1/2

F. Eng.


Cutting off
3 feet
33 feet long
Cutting off
Reel
Lowering Jib
Jonge
Other belt


Screws -
1 Set.
Rolls 6" Dia

96000 Tubes = 500 cells.

200 cells = 2/5 of 96000 = 38400 Tubes.

a tract 5 3/4 diam. would hold not 300.

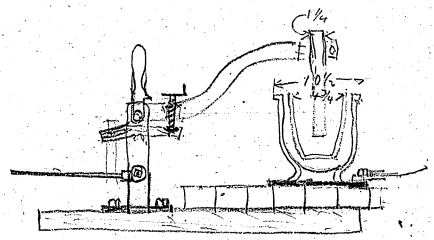
9" long = 600. 600) 38400 (64 Tubes.
3600
2400
2400

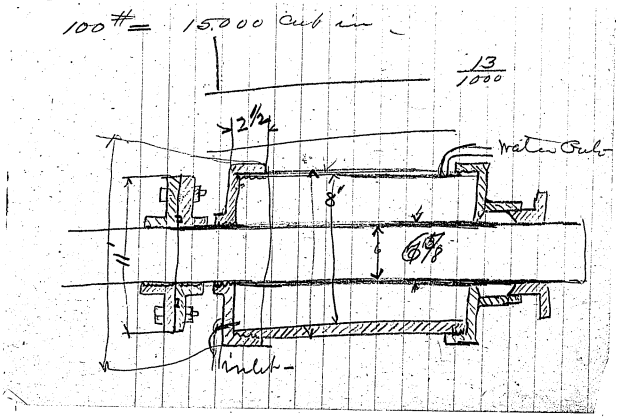
64 × 10
60) 640
10 Tubes. 4. Tube Furnace

144000 Pockets = 500 cells.

200 cells = 2/5 of 144000 = 57,600 Pockets.

40. 9604
88.1


1 1/4
10 1/2
1 3/4


100# = 15,000 cub in
13/1000
2 1/2
Water Cub
8"
6
Inlet

96000 = 500 cells.

200 cells = 2/5 of 96000 = 192000/5 = 38400

38400 tubes. 4½" long.

a tank. 5¾ dia in. would hold about.

300. - 9" long = 600

288
300
172800 %

600) 38400 (64 = say 60 tubes) 172800 / 57600

36000
2400

64) 700 (11 2 furn =

6

~~5 furnace~~

5 tube furnace — or 3 furnace 22 tubes in each.

300.

144000

20 48
288
67600

17 7200
172800
57600 Products.

2.76
12
552
276
33.12) 9.0000 0
6624
23760
23184
57.60

.271

180.#
811600
271) 186600 (100
1720
1380
453.5925

28.30
16
77010
28300
453.60

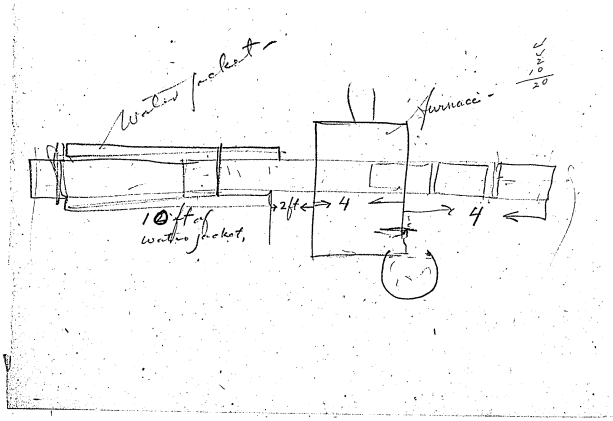
16000 oz.

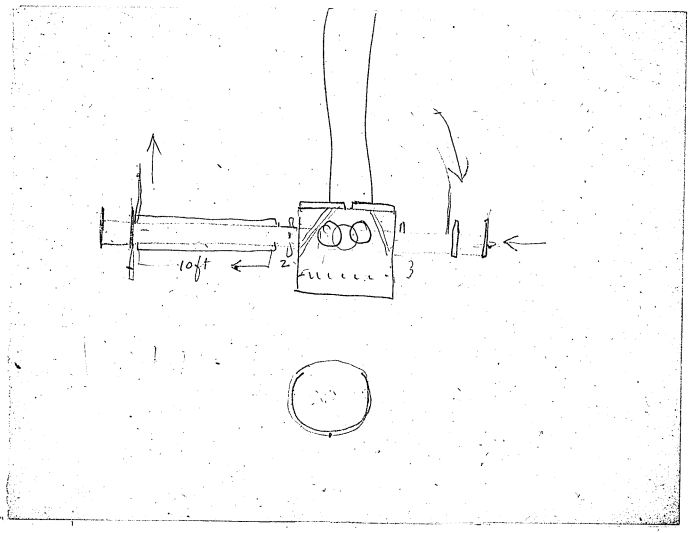
25.96
12
5192
2596
311.52
.271
31152
21806.4
62304
84.4219 2 grams.

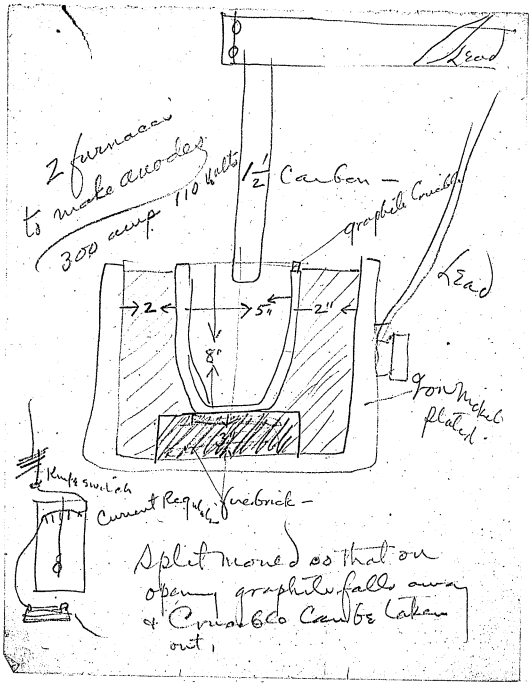
8442) 453.600 (5.4
42210
31500

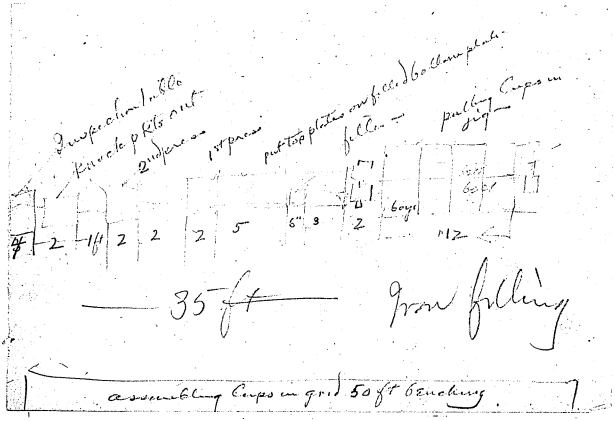
10. 6.254 lb.

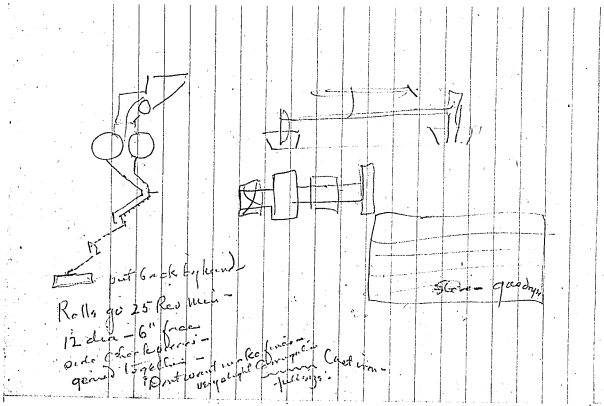
600
2½
1200
300
60) 1500 (6
25.4
6.25


Furnace
2ft
4
4
10 ft of
water jacket,

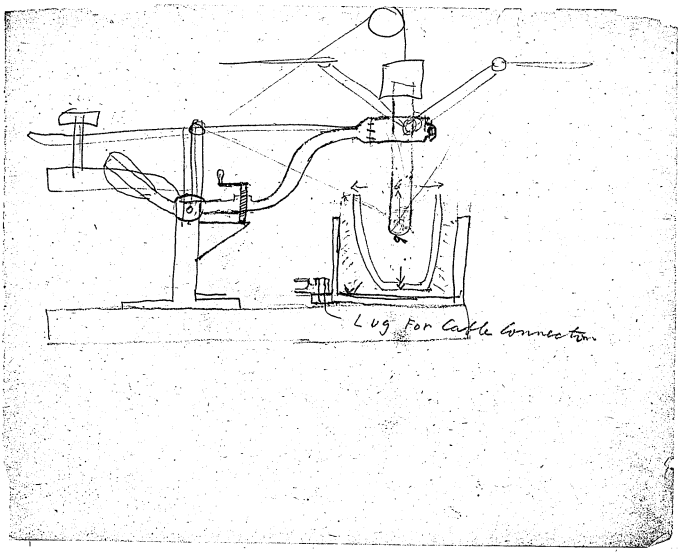

10ft
2
3

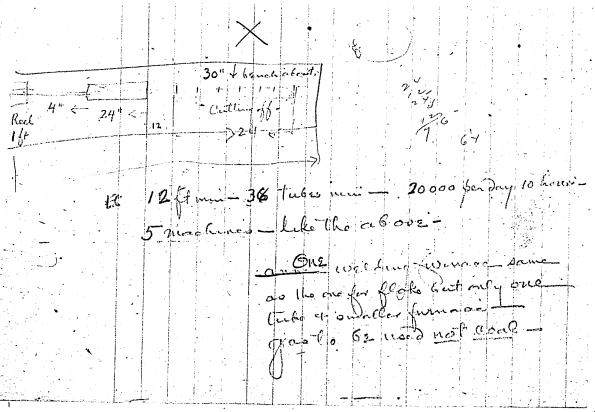

Lead
2 furnaces
to make anodes
300 amp 110 volts
1/2" Carbon
graphite Crucible
Lead
2"
5"
2"
8"
Iron Nickel plated.
Knife switch
Current Regulator
fire brick
Split mould so that on opening graphite falls away & Cmax 660 Carbs taken out.

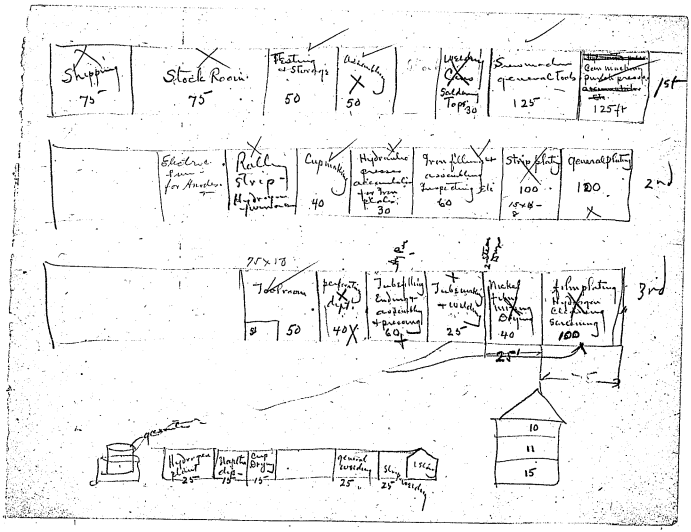

Inspection in 8lbs
fitments p Kits and
2 men on
1st press
put top plates on feed bottom plate
feller
putting Caps on
jig
4 2 1ft 2 2 2 5 6" 3 2 6 boys 6 boys 12
35 ft
from filling
assembling Caps on grid 50 ft bending


Rolls go 25 Rev min -
12 diam - 6" face
Stone - grooves

Dept to Receive the green nickel from
Chem works 1/4 of finer mesh —
Crushing with rolls, screening -
~~[illegible]~~ to 20 mesh & finer —
& mixing flake with it by using
one of the mixers now in Slow
Lake substituting light fuller's
& flence of the heavy to Rock
Dept not to Crush stuff -
& Dryer to Dry the mix —


Lug for Cable Connection


30" + bench board
Cutting off
Reel lift
4"
24"
12
24
12 ft min — 36 tubes min — 20000 per day 10 hours —
5 machines — like the above —
One washing machine same
as the one for flake but only one
tube or smaller furnace
giving 6 to 8 cord next week —


Shipping
75
Stock Room
75
Plating & Strip Tops
50
Assembly
50
Weighing
Solder Tops
30
Small machine & general tools
125
Comm machine products & general
125 ft
1st
Electric furn for Anodes
Rail Strip
Hydraulic furnace
40
Cupriding
Hydraulic press & assembly
30
Iron filling & assembly
Inspecting Eli
60
Strip plating
100
15 x 8
General plating
100
2nd
Tool room
50
Perforating
40
Tube filling & assembly & processing
60
Tube work & welding
25
Nickel tube plating
40
Film plating & Hydrogen Electrolysis & screening
100
3rd
10
11
15
Hydrogen plant
25
Magnetic clip
15
Bing Bing
15
General welding
25
Sh
25
Welding
Stock

[ON BACK OF PRECEDING PAGE]

strip for — 5×8

Lead Mill — 6 & 3

4×30

Screw Mill and Drill

Press

Plating & Tank

3×12

Welding Cars

£18 150 Sides - 10 lw

Top £ 75-80 -

Bottom. 80-90. —

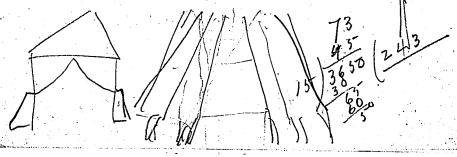
X others same proportions accord to dist. are welded —

Base £ all on £18 —

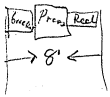
5 - Side welders —

X 6 Top welders — for 10-ton

6 Bottom welders —



5 Cupmaking Machines -



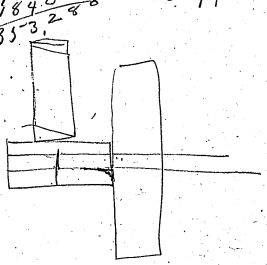
144 —
21 00
144 00
288
302 400

302 grams for Fe & 18 —
353 " Ni "
655 Total.
734 — 800.

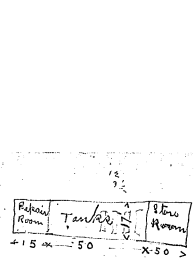
655
500
446 | 3275 00
3122
1538
1338
192

734

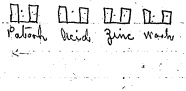
1840 —
192
3680
16560
18400
353.



375
42
750
75
8250
2 u
16500 again
5
82.5 wk in
5
16 | 412.5
25 Use per cycle per rack



2.5 min per cycle = 11 lb per min per rack
with two racks one is in use all the time
necessitating 2 tanks for acid 1 for dip
one for wash one for cobalt one
for zinc one for potash
tanks are in pairs or double
3'-6" c-c - 1-6½ wide by 13 long
outside space necessary 50 x 13

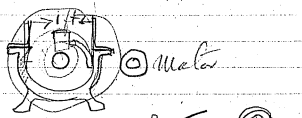


17½
32
15½
1½
47

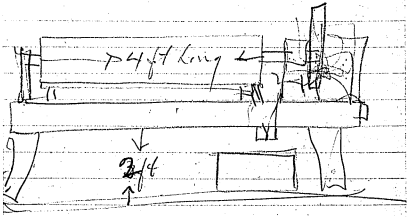
120 1.44

lift out ring to clean -

plow + smoother -



20 Rev



Stand 31 lbs -

Pulley - 26½ "

Dust Ring - 1 "

Scrap 1

Σ - 9½ lbs -

filling Machine 20 minutes, one cell —
3 hours — 30 day — 500 daily 16 machines —
space on bench — 24 inches —
Gauging & reassembling before & after filling —
space on bench 8 places 24" each —

Ending Machines — 20 complete per minute,
10 minutes, per cell, 60 cells 10 hours, 8 machines
24" inches length bench for each —

Assembling 40 per minute, 4 places —
30 long on bench =

Hydraulic pressing of cells in
grid — 6 plates per min — or one cell —
or one hydraulic — These can go in the
tube filling Room —

Length of tube filling tube 45 feet.
2 tables, 500 daily —
Benches outside of this length is plenty
for assembling —

Corrugating tubes

4X4

20 pennies - - 6 inches

600)4500(7

20)90000(4500
80
100

Each perforating machine — 10 feet long
7 ft bellows — Extend outwards towards
Center of bldg from the beach —
38,000 ft required daily Each machine
do 20 — pay 50

Rolling thin strip from 3" 15/1000 —
38000 ft .003 daily 24 hours, 1 machine
opt dila from the body for No of
Rolls furnace length of room —
Etc — 14 Rolls — 2 furnaces

50 wide — 60 long.

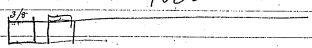
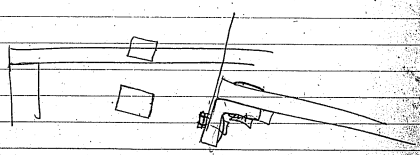
12" bucket, 150 buckets per min ultimate

#103 chain ~~[illegible]~~ 300 1/2" bcs 1/4 ft

Screen — sloce bake

150 — 1500 — 7500 — 15000 — 225000 — 1728 — 1728 — 5184 — 5.1

13. 13 — 50 — 650 — 6500 — 39000 — 2000 — 19000 — 19 — 19 — 2 — 38 — 9 — 47

2000

48000